WHAT IS CLAIMED IS:

1   1.   A method of handling a computer task using an
2   intelligent agent, the method comprising the steps of:
3   (a) based upon an objective criteria, selecting
4   at least one selected program module from a plurality
5   of program modules having varied degrees of domain
6   knowledge, wherein the plurality of program modules
7   are configured to handle a common computer task; and
8   (b) configuring an intelligent agent to execute
9   the at least one selected program module to handle
10   the computer task.

1   2.   The method of claim 1, wherein the intelligent
2   agent includes only the selected program module from the
3   plurality of program modules, and wherein the configuring
4   step includes the step of constructing the intelligent
5   agent using the selected program module.

1   3.   The method of claim 1, wherein the intelligent
2   agent includes each of the plurality of program modules,
3   and wherein the configuring step includes the step of
4   configuring the intelligent agent to execute only the
5   selected program module to handle the computer task.

1   4.   The method of claim 1, wherein the selecting step
2   is performed by the intelligent agent.

1   5.   The method of claim 1, wherein the selecting step
2   is performed by an agent manager.

1   6.   The method of claim 1, wherein the plurality of
2   program modules are additive program modules, and wherein
3   the selecting step includes the step of selecting a subset

4   of the plurality of program modules to handle the computer

5   task.

1   7.   The method of claim 1, wherein the plurality of

2   program modules are alternative program modules, and

3   wherein the selecting step includes the step of selecting

4   only one of the plurality of program modules to handle the

5   computer task.

1   8.   The method of claim 1, wherein the selecting step

2   includes the step of adaptively selecting the selected

3   program module using a reinforcement learning algorithm.

1   9.   The method of claim 8, further comprising the

2   steps of:

3   (a)   obtaining performance information relating

4   to the performance of the selected program module in

5   handling the computer task; and

6   (b)   supplying the performance information to

7   the reinforcement learning algorithm.

1   10.   The method of claim 8, wherein the reinforcement

2   learning algorithm is implemented in an adaptive heuristic

3   critic neural network.

1   11.   The method of claim 1, wherein the selecting

2   step includes the steps of:

3   (a)   matching each of the plurality of program

4   modules with a value of the objective criteria;

5   (b)   determining a selected value of the

6   objective criteria; and

7   (c)   selecting as the selected program module a

8   program module matching the selected value of the

9   objective criteria.

1   12.   The method of claim 11, wherein the selecting
2   step further includes the step of retrieving information
3   for a selected computer task, wherein the determining step
4   determines the selected value of the objective criteria
5   using the retrieved information.

1   13.   The method of claim 1, wherein the intelligent
2   agent is configured to conduct negotiations in an
3   electronic commerce application, and wherein the domain
4   knowledge for each of the plurality of program modules is
5   related to the autonomy delegated thereto.

1   14.   The method of claim 13, wherein the plurality of
2   program modules includes a semi-autonomous program module,
3   a fully-autonomous program module, and a fully-dependent
4   program module.

1   15.   The method of claim 13, wherein the objective
2   criteria includes a risk that a dispatched agent is
3   subjected to in negotiations.

1   16.   An apparatus for handling a computer task,
2   comprising:
3   an intelligent agent including at least one of a
4   plurality of program modules having varied degrees of
5   domain knowledge, wherein the plurality of program
6   modules are configured to handle a common computer
7   task, and wherein, based upon an objective criteria,
8   at least one selected program module from the
9   plurality of program modules is selected to handle
10   the computer task.

1   17.   The apparatus of claim 16, further comprising an
2 evaluation module configured to select the selected
3 program module based upon the objective criteria.

1   18.   The apparatus of claim 17, further comprising a
2 reinforcement learning module, coupled to the evaluation
3 module and configured to adaptively select program modules
4 based upon the performance of the plurality of program
5 modules in handling the computer task.

1   19.   The apparatus of claim 18, wherein the
2 reinforcement learning module comprises an adaptive
3 heuristic critic neural network.

1   20.   The apparatus of claim 17, wherein the
2 evaluation module is configured to retrieve information
3 for a selected computer task, determine a selected value
4 for the objective criteria for the selected computer task,
5 and select as the selected program module one of the
6 plurality of program modules which is matched with the
7 selected value of the objective criteria.

1   21.   The apparatus of claim 17, wherein the
2 evaluation module is implemented in an agent manager.

1   22.   The apparatus of claim 17, wherein the
2 evaluation module is implemented in the intelligent agent.

1   23.   The apparatus of claim 17, wherein the
2 intelligent agent includes only the selected program
3 module from the plurality of program modules, and wherein
4 the evaluation module is configured to construct the
5 intelligent agent using the selected program module.

6   24.   The apparatus of claim 17, wherein the
7 intelligent agent includes each of the plurality of
8 program modules, and wherein the evaluation module is
9 configured to execute only the selected program module to
10 handle the computer task.

1   25.   The apparatus of claim 17, wherein the plurality
2 of program modules are additive program modules, and
3 wherein the evaluation module is configured to select a
4 subset of the plurality of program modules to handle the
5 computer task.

1   26.   The apparatus of claim 17, wherein the plurality
2 of program modules are alternative program modules, and
3 wherein the evaluation module is configured to select only
4 one of the plurality of program modules to handle the
5 computer task.

1   27.   The apparatus of claim 16, wherein the
2 intelligent agent is configured to conduct negotiations in
3 an electronic commerce application, and wherein the domain
4 knowledge for each of the plurality of program modules is
5 related to the autonomy delegated thereto.

1   28.   The apparatus of claim 27, wherein the plurality
2 of program modules includes a semi-autonomous program
3 module, a fully-autonomous program module, and a fully-
4 dependent program module.

1   29.   The apparatus of claim 27, wherein the objective
2 criteria includes a risk that a dispatched agent is
3 subjected to in negotiations.

SUB P1

1   30.   A program product comprising:

2   (a)   a program configured to perform a computer

3   task using an intelligent agent, the program

4   comprising an intelligent agent including at least

5   one of a plurality of program modules having varied

6   degrees of domain knowledge, wherein the plurality of

7   program modules are configured to handle a common

8   computer task, and wherein, based upon an objective

9   criteria, at least one selected program module from

10   the plurality of program modules is selected to

11   handle the computer task; and

12   (b)   a signal bearing media bearing the program.

1   31.   The program product of claim 30, wherein the

2   signal bearing media is transmission type media.

1   32.   The program product of claim 30, wherein the

2   signal bearing media is recordable media.

1   33.   A method of handling a computer task on a remote

2   computer system using an intelligent agent, the method

3   comprising the steps of:

4   (a)   determining a risk for the remote computer

5   system;

6   (b)   based upon the risk for the remote computer

7   system, selecting at least one selected program

8   module from a plurality of program modules having

9   varied degrees of domain knowledge, wherein the

10   plurality of program modules are configured to handle

11   a common computer task in the remote computer system;

12   and

13   (c)   configuring an intelligent agent to execute

14   the at least one selected program module to handle

15   the computer task.

1   34.   The method of claim 33, further comprising the
2   step of matching each of the plurality of program modules
3   with a risk level.

1   35.   The method of claim 34, wherein the matching
2   step includes the step of adaptively matching each program
3   module based upon the actual performance of the plurality
4   of program modules.

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